

REMARKS

Initially, Applicant would like to express appreciation to the Examiner for the detailed Official Action provided, for the acknowledgment of Applicant's Claim for Priority and receipt of the certified copy of the priority document, and for the acknowledgment of Applicant's Information Disclosure Statement by return of the Form PTO-1449.

Applicant acknowledges with appreciation the Examiner's indication of allowable subject matter in claim 45.

Upon entry of the above amendment, claims 36 and 41-65 will have been amended; and newly presented claims 66 and 67 will have been added. Accordingly, claims 36-67 are currently pending. Applicant respectfully requests reconsideration of the outstanding rejection and allowance of claims 36-67 in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

The Examiner has objected to the drawings as including reference characters (figures 3a and 3b) that are not mentioned in the description. In response, Applicant has amended the specification to include reference to figures 3a and 3b, as suggested by the Examiner. Accordingly, in view of the above noted amendments and remarks, it is believed that the objection to the drawings has been overcome, and Applicant respectfully requests reconsideration and withdrawal of the outstanding objection.

The Examiner has objected to the specification as failing to include headings. In response, Applicant has submitted herewith a substitute specification, including the amendments suggested by the Examiner. In this regard, Applicant has submitted herewith a marked up copy of the substitute specification and a clean copy of the substitute specification. No new matter has been introduced by the substitute specification.

Accordingly, in view of the above noted amendments and remarks, it is believed that the objection to the specification has been overcome, and Applicant respectfully requests reconsideration and withdrawal of the outstanding objection.

Additionally, Applicant has amended the abstract to delete reference numerals therefrom, and to make minor grammatical changes thereto.

The Examiner has rejected claims 41-43, 49-54, 57-61, and all claims dependent therefrom, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response thereto, Applicant has amended claims 41-65 in order to provide clear, consistent claim language. In particular, claim 41 has been amended to clarify the relative relationship between the intermediate cladding layer and the air permeable panels; and "a panel" has been amended to set forth "air permeable panel", as requested by the Examiner. Claim 42 has been amended to correct "a wall member" to clarify that the wall member forms a wall of the envelope of a building; and claim 42 has been amended to clarify that the breathing wall panel of claim 36 is located adjacent and is coupled to the wall member. Support for this amendment may be found at least in paragraph [0034]. Further, claim 43 has been amended to clarify that there is provided an internal wall member and an external wall member, both of which form walls of the envelope of a building, with the breathing wall panel located there between. See particularly figure 7, where there is provided an external rainscreen wall 13 and an internal wall 14, with the intermediate cladding layer and two air permeable panels provided between them. With respect to the rejections of claims 49-54 and 57-61, it is noted that independent claims 36 and 46 have been amended to positively claim the intermediate cladding layer. Accordingly, dependent claims 49-54 and 57-61 now correctly refer to features previously recited in independent claim 46.

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With respect to claim 56, claim 55 on which claim 56 depends has been amended to provide correct antecedent for the term “panel units”. In particular, it has been clarified that the intermediate cladding layer is provided in the form of one or more panel units, and these panel units may be provided in modular format.

Accordingly, in view of the above noted amendments and remarks, all of the pending claims are believed to fully comply with 35 U.S.C. § 112, second paragraph, and Applicant respectfully requests reconsideration and withdrawal of the outstanding rejection under 35 U.S.C. § 112, second paragraph.

The Examiner has rejected claims 36-43, 46-62, and 65 under 35 U.S.C. § 102(b) as being unpatentable over WO 00/73602 to KUPPERS.

Although Applicant does not necessarily agree with the Examiner’s rejection of the claims on this ground, nevertheless, Applicant has amended independent claims 36 and 46 to clearly obviate the above noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicant notes that KUPPERS fails to show each and every element recited in the amended claims. In particular, claim 36, as amended, sets forth an air permeable panel engaging and supporting an intermediate cladding layer including, inter alia, “a plurality of projections interconnected in a lattice configuration, said projections each having a tip portion, the respective tip portions being arranged to face in a common direction to engage with the intermediate cladding layer, each said projection further having a base periphery at which adjacent projections are interconnected, the base peripheries being interconnected such that apertures are defined between the base peripheries in the lattice configuration”. Claim 46, as amended, sets forth an “air permeable panel engaging with an intermediate cladding layer having filtering characteristics, the air permeable panel supporting the intermediate cladding layer by engaging with it, said air permeable panel” including, inter alia, “a plurality of hollowed elements interconnected in a planar lattice

arrangement, said hollowed elements facing in a common direction and being interspersed with apertures, the hollowed elements being interconnected at their base peripheries to define said apertures therebetween”.

This amendment is fully supported by the specification, including the claims and drawings, and no prohibited new matter has been added.

In particular, the present invention involves dynamic insulation technologies. Dynamic insulation uses air permeable cladding layers in a building's envelope to heat incoming air. As outdoor air is drawn into the building through the cladding layer, a contra-flow heat exchange occurs. Heat normally lost through conduction is instead used to preheat incoming ventilation air. This has been shown to achieve up to 30% energy savings above current conventional insulation standards, as described in paragraph [0002] of the instant specification.

For an intermediate cladding layer to function optimally as a dynamic insulator, incoming ventilation air must flow uniformly through it. However, intermediate cladding layers of the prior art are generally not self-supporting. To the contrary, the prior art cladding layers are structurally weak, making their precise placement and long-term stability poor, as described in paragraph [0006] of the instant specification.

To overcome this problem and others in the prior art, the claimed invention provides an air permeable panel 1 engaged with an intermediate cladding layer. The air permeable panel 1 includes a plurality of projections which each have a tip portion arranged to face in a common direction. These tip portions engage with the intermediate cladding layer to support it, and the base peripheries of the projections are interconnected such that apertures are defined between them. The apertures form a repeating pattern throughout the lattice structure of the air permeable panel to allow the uniform passage of air through the intermediate cladding layer. Accordingly, with the claimed invention, an air permeable panel is provided which achieves optimum dynamic insulation

properties while, at the same time, providing structural support to the intermediate cladding layer. See particularly figure 1, cross section A-A; and paragraph [0035].

Thus, Applicant's claimed invention provides improvements and advantages over the prior art devices.

The KUPPERS patent document discloses a lightweight construction element that includes a honeycomb structure 3 encased within an upper outer individual layer 2 and a lower outer individual layer 2, that are integrated together. See figure 1. See also column 7, lines 12-20 of U.S. Patent No. 7,010,897 to KUPPERS (hereinafter KUPPERS '897), which is a patent family member of WO 00/73602. KUPPERS does not teach or suggest the claimed features of Applicant's invention.

In particular, KUPPERS discloses a lightweight construction element which consists of a honeycomb structure 3 encased in an upper outer individual layer 2 and lower outer individual layer 2, which are integrated together. The honeycomb structure 3 is formed by interlocking a plurality of shaped individual layers 23, 24, 25. This results in trapped air inside the honeycomb structure 3. See column 8, lines 18-25 and 57-60 of KUPPERS '897. Thus, the KUPPERS device provides conventional insulation properties by trapping air inside the element and preventing air flow through the element. See also column 2, lines 8-14 of KUPPERS '897.

Accordingly, KUPPERS fails to disclose an air permeable panel engaging an intermediate cladding layer, as claimed. As described in detail above, the present invention provides an air permeable panel which allows air to pass through its intermediate cladding layer to provide dynamic insulating properties.

In contradistinction, the KUPPERS document is directed to a construction element that prevents airflow by trapping air inside its internal honeycomb construction. See column 2, lines 16-19 of KUPPERS '897, which states that the hollow or partially

hollow bodies can be used to hold gas or liquid to create a fire wall. Clearly, then, KUPPERS provides no disclosure, teaching, or suggestion of a breathing wall panel.

Additionally, KUPPERS does not disclose, teach, or suggest an intermediate cladding layer or an intermediate cladding layer having filtering characteristics, as in the claimed invention. In contrast, KUPPERS only notes that its construction element has (conventional) insulation properties by trapping air inside its interior. As such, the KUPPERS device does not include a cladding layer; and its construction element cannot have filtering characteristics as it is impermeable.

Moreover, KUPPERS fails to disclose, teach, or suggest the claimed feature of providing an air permeable panel supporting the intermediate cladding layer. KUPPERS does not disclose an intermediate cladding layer; and the construction element of KUPPERS is impermeable.

The Examiner has identified the individual layer 33 as providing a plurality of pyramids 14 and gaps 33. However, it is noted that the KUPPERS device only provides this individual layer as a component part of the construction element 1 (shown in Figure 1), which has a smooth, flat outer cover. See column 4, lines 50-58 of KUPPERS '897. Accordingly, KUPPERS also cannot disclose, teach, or suggest the claimed features of providing a plurality of projections which engage with an intermediate cladding layer.

Thus, the KUPPERS document does not show an air permeable panel engaging and supporting an intermediate cladding layer including, inter alia, "a plurality of projections interconnected in a lattice configuration, said projections each having a tip portion, the respective tip portions being arranged to face in a common direction to engage with the intermediate cladding layer, each said projection further having a base periphery at which adjacent projections are interconnected, the base peripheries being interconnected such that apertures are defined between the base peripheries in the lattice configuration", as set forth in amended independent claim 36. Further, KUPPERS does

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not show “air permeable panel engaging with an intermediate cladding layer having filtering characteristics, the air permeable panel supporting the intermediate cladding layer by engaging with it, said air permeable panel” including, inter alia, “a plurality of hollowed elements interconnected in a planar lattice arrangement, said hollowed elements facing in a common direction and being interspersed with apertures, the hollowed elements being interconnected at their base peripheries to define said apertures therebetween”, as set forth in amended independent claim 46.

Since the reference fails to show each and every element of the claimed device, the rejection of claims 36 and 46 under 35 U.S.C. § 102(b) over KUPPERS is improper and withdrawal thereof is respectfully requested.

Further, it is noted that KUPPERS does not describe dynamic insulation, nor does the KUPPERS document provide any teaching or motivation to modify its construction element to form an air permeable panel engaging with an intermediate cladding layer. In fact, the KUPPERS document specifically teaches away from such a construction, as the KUPPERS document teaches that an air *impermeable* construction provides improved conventional insulation properties. See column 2, lines 8-14 of KUPPERS ‘897.

Additionally, KUPPERS specifically teaches a construction in which shaped layers are encased within a smooth outer cover so as to allow the stacking of construction elements. See column 4, lines 53-54 of KUPPERS ‘897. Therefore, not only does KUPPERS fail to teach or suggest that a construction element could be used to engage an intermediate cladding layer as claimed, but KUPPERS also teaches away from a construction in which projections are provided on its surface.

Accordingly, for at least the reasons above, it is respectfully submitted that the prior art fails to teach or suggest the claimed device, and that a rejection of claims 36 and 46 under 35 U.S.C. § 103(a) over KUPPERS would be improper.

The Examiner has rejected claim 44 under 35 U.S.C. § 103(a) as being unpatentable over KUPPERS in view of BURGES (U.S. Patent No. 3,217,455).

Applicant notes that KUPPERS fails to teach or suggest the subject matter claimed in amended independent claim 36, as described above. Further, BURGES fails to cure these deficiencies. In this regard, BURGES discloses a modular panel construction, and provides no teaching or suggestion of an air permeable panel, as claimed. Thus, even if the teachings of A and B were combined, as suggested by the Examiner, the claimed combination would not result. Moreover, there is nothing in the cited prior art that would lead one of ordinary skill in the art to make the modification suggested by the Examiner in the rejection of claim 44 under 35 U.S.C. § 103(a) over KUPPERS in view of BURGES. Thus, the only reason to combine the teachings of KUPPERS and BURGES results from a review of Applicant's disclosure and the application of impermissible hindsight. Accordingly, the rejection of claim 44 under 35 U.S.C. § 103(a) over KUPPERS in view of BURGES is improper for all the above reasons and withdrawal thereof is respectfully requested.

The Examiner has rejected claims 63 and 64 under 35 U.S.C. § 103(a) as being unpatentable over KUPPERS.

Although Applicant does not necessarily agree with the Examiner's rejection of the claims on this ground, nevertheless, Applicant has amended independent claim 46 to clearly obviate the above-noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicant notes that KUPPERS fails to teach or suggest the subject matter claimed in amended claim 46, as described above. Thus, even if one were led to make the modification asserted by the Examiner, the claimed combination would not result. Further, the Examiner has concluded that modifying the KUPPERS device to include panels molded from plastic material or fire retardant material would have been an obvious design choice. However, Applicant submits that



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nothing in the applied prior art teaches or suggests the claimed combination.

Accordingly, Applicant submits that a factual basis for the rejection has not been established and thus a prima facie case of obviousness has not been established, and that rejection of claims 63 and 64 under 35 U.S.C. § 103(a) can only result from a review of Applicant's disclosure and the application of impermissible hindsight. Accordingly, the rejection of claims 63 and 64 under 35 U.S.C. § 103(a) over KUPPERS is improper for all the above reasons and withdrawal thereof is respectfully requested.

Applicant submits that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicant's invention as recited in newly submitted claims 66 and 67. Further, claim 45, which the Examiner has indicated contains allowable subject matter, has been rewritten in independent form as claim 66.

New claim 67 recites additional subject matter which is not taught or suggested by the prior art and is also allowable. Newly presented independent claim 67 sets forth a breathable wall panel unit including a cladding layer and an air permeable panel for supporting the cladding layer. Support for this amendment may be found at least in paragraphs [0034] and [0035] of the specification; and in Figure 7.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections, and an early indication of the allowance of claims 36-67.

#### SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that the present amendment is proper and that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicant's invention as recited in claims 36-67. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

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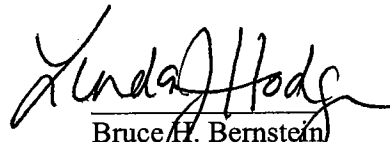
Accordingly, consideration of the present amendment, reconsideration of the outstanding Official Action, and allowance of the present amendment and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so.

Any amendments to the claims which have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully Submitted,  
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Attachments: Substitute Specification (Clean Copy)  
Substitute Specification (Marked-up Copy)